REMARKS

<u>Title Objection</u>

The title of the application was objected to for not being descriptive of the invention to which the claims are directed. Applicants request that the title be changed to --Embedded Web-Accessible Industrial Control System-- as suggested by the Office.

<u>Claim Objections</u>

Claim 10-14 were objected to for dependency issues. Applicants respectfully submit that these claims are presented in proper form. As § 608.01(n) of the MPEP quoted at paragraph 4 of the Office action states, "[a] claim that depends from a dependent claim should not be separated by any claim that does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to <u>any preceding independent claim</u>" [emphasis added].

Specifically then, claim 1 is an independent claim, and dependent claims 2, 3, 4, 10, 11, 12 and 13 each depends directly from <u>independent</u> claim 1. Dependent claim 5 depends from claim 4, dependent claim 6 depends from claim 5 and each of claims 7, 8 and 9 depend from claim 6. Claim 14 depends from claim 13. The claims that depend directly from independent claim 1 are thus believed to be properly presented, as are the dependent claims that depend from other dependent claims. Reconsideration is thus requested.

<u>Claim Rejections</u>

Paragraph 5 of the Office action indicates that claim 16 was rejected under § 112, ¶2, for indefiniteness because of the inclusion of the phrase "capable of". This language is actually presented in claim <u>15</u>, which is hereby amended as suggested to delete the "capable of being" from the recited "memory" element of that claim. Thus, the claim now recites "a memory means for storing programming software utilized to generate a controller program for operation on at least one of the web access module and one of the control devices". This is believed to overcome the cited indefiniteness rejection.

Claims 1-5, 10, 14-20 were rejected under § 103(a) as being obvious in light of Papadopoulos et al. patent (U.S. Pat. No. 6,061,603) and Lindner et al. (U.S. Pat. No. 6,640,140). Claims 6-9 and 11-12 were rejected as obvious in light of Papadopoulos et al., Lindner et al. and Hauet (U.S. Pat. No. 6,799,077). Claim 13 is rejected as obvious in light of Papadopoulos et al., Lindner et al. and Chan et al. (U.S. Pat. No. 6,588,673).

As an initial matter, it is noted that the Lindner et al. patent was filed on October 10, 2000, which is less than one year before the September 28, 2001 filing date of the present application. Nothing herein should be construed as Applicants conceding that the Lindner et al. patent is in fact prior art to the present invention, and thus Applicants preserve the right to contest the status of this patent at a later date.

With regard to the substantive rejections, the pending claims are believed to be distinguishable from the disclosure of the cited references, and reconsideration of the allowability of the pending claims is requested in light of the following remarks.

Each of the three independent claims (claims 1, 15 and 18), and thereby all claims, recite an industrial control system, or method of generating a controller program for use in such a system, which interfaces with the Internet and provides programming software to a remote device that uses the programming software to program the controller remotely. The Office's position is that this is made obvious by the combined teaching of Papadopoulos et al. and Lindner et al., however, applicants believe that it is not.

The Papadopoulos et al. patent provides for remote access to the PLC of an industrial controller via the Internet. Controller commands are sent to the server interface where the commands are processed to control of the PLC. Real-time PLC control is achieved by controlling the flow of data through the web server 30. As acknowledged by the Office, Papadopoulos et al. do not teach providing programming software for the controller, or the control program itself, to the remote user over the Internet.

The Lindner et al. patent discloses allowing remote client access to control information of an industrial control through the Internet. Specifically, the HTTP server 32 and the file server 20 of the controller 10a communicate ladder scan data and display instructions readable by a browser 52 of a remote computer. This permits the remote user to view and access the controller data in the appropriate manner. Thus, Lindner et al. do not address remote control of the controller, but instead a way to allow for remote access to the controller information without affecting the scan rate of the PLC.

Thus, at best, the combined teaching would instruct one as to how to forward controller information to the remote client, for sending commands to the PLC, in such a way that does not interfere with the scanning of the PLC. The combined teaching does not suggest to one of skill in the art to forward programming software via the Internet to the remote client to allow remote programming for the controller, followed by the Internet return, and subsequent execution of, the controller program generated at the remote client.

The dependent claims are considered allowable in that the independent claims from which they depend are believed to be novel and non-obvious in light of the cited patents.

Dependent claims 6, 8 and 19, for example, recite additional features of the present invention that are not taught by the combination of the Papadopoulos et al. and Linder et al. patents. Namely, the system can forward both an existing controller program and the programming software to the remote client via the Internet. Multiple versions of the programming software and/or the controller program can be stored and associated by version. Thus, the system can ensure that the remote client is able to access and modify the current controller program by forwarding the appropriate version of programming software for programming the particular version of the controller program used.

The Office indicates that this is taught by combining the disclosure of Papadopoulos et al., Lindner et al. and Hauet (U.S. Pat. No. 6,799,077). However, this combination does not teach forwarding programming software to a remote

client for programming the controller remotely, forwarding the controller program to the remote client for modification by the programming software, nor associating a controller program version with a compatible programming software version to ensure remote programming capabilities.

Thus, claims 6, 8 and 19 are believed allowable for these additional reasons.

Conclusion

Accordingly, claims 1-20 are believed to in allowable form in light of the above remarks and the minor amendment to claim 15. Reconsideration and allowance of these claims is thus respectfully requested.

Neither the total number of claims nor the number of independent claims was been chanced. Thus, no fees are believed necessary for consideration of this response. Nevertheless, should any additional fees be needed for full consideration of this amendment, please charge any fees believed necessary in connection with this response to Deposit Account 17-0055.

Respectfully submitted,

Brian A. Batke, et al.

By: _____

Steven J. Wietrzny
Reg. No. 44,402
Attorney for Applicant
Quarles & Brady LLP
411 East Wisconsin Avenue
Milwaukee, WI 53202
(414) 277-5415

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